MEMO

DATE: March 2, 2006

TO: Energy and Environment Committee

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SUBJECT: U.S. EPA Proposal to Revise the National Ambient Air Quality Standards for Particulate Matter

SUMMARY

In response to the discussion on fine particulates and fugitive dust at the February 2, 2006 EEC meeting, SCAG staff will provide comments on the U.S. Environmental Protection Agency's (EPA) proposed revisions to the national ambient air quality standards for particulate matter. Comments are due to U.S. EPA by April 17, 2006

BACKGROUND

The Clean Air Act directs EPA to set national ambient air quality standards (NAAQS) for six "criteria air pollutants:" ground-level ozone "smog", carbon monoxide (CO), lead, nitrogen dioxide (NO_2), sulfur dioxide (SO_2) and particulate matter (PM). The Clean Air Act requires EPA to revise the health and welfare-based standards once every five years to determine whether revisions to the standards are necessary to provide the appropriate levels of protection. EPA last revised the particulate matter standards in 1997. Under terms of a consent decree, EPA agreed to propose whether to revise the PM standards by December 20, 2005, and committed to finalizing any revisions to the standards by September 27, 2006.

EPA is proposing revisions and taking comment on a range of PM standards: fine particles which are 2.5 micrometers in diameter and smaller ("PM2.5"); coarse particles ("PM10"), and a new inhalable coarse particles standard, which are smaller than 10 micrometers in diameter but larger than PM2.5 ("PM10-2.5").

The following describes components of the proposed revisions which may be of particular note to the EEC based on the discussions at the February 2, 2006 meeting.

- The proposed revisions would *change the definition of the PM10 standard* so that it covers only particles between 10 and 2.5 micrometers in diameter (PM10-2.5), also known as "inhalable coarse particles," in response to a 1999 U.S. Court of Appeals for the D.C. Circuit decision directing EPA to ensure that regulations for coarse particles did not duplicate regulation of fine particles. The proposed new PM10-2.5 standard would be a 24-hour standard; EPA is not proposing an annual standard for PM10-2.5. EPA would further *define PM10-2.5 to include only those coarse particles that come from sources such as high-density traffic on paved roads, industrial sources and construction activities* – the kinds of coarse particles typically found in urban areas. *The proposed standard would not cover situations where the coarse particles in the air come from sources such as windblown dust and soils, agricultural sources and mining sources.*

- *EPA is proposing to immediately revoke the current annual PM10 standards in all areas. EPA is also proposing to revoke the current 24-hour PM10 standards, except in areas that have 1) violating monitors; and 2) a population of 100,000 or more.* These standards would remain in place in these areas until the Agency has completed attainment and nonattainment designations for PM 10-02.5.

EPA is taking comment on whether the 24-hour PM10 standards should be retained in smaller areas (population less than 100,000) that are dominated by one or more large industrial sources.

- EPA is also taking comment on whether it should: 1) retain the current PM10 standard in place of the proposed PM10-2.5 standard or 2) not establish a coarse fraction PM standard at this time pending the development of a coarse fraction monitoring network and further research on the health effects of coarse particles.

- EPA is proposing to *strengthen the 24-hour PM2.5 standard* from the current level of 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$, though they are also seeking comment on: retaining the current level of the standard (of 65 $\mu g/ m^3$), on levels as high as 65 $\mu g/ m^3$ and as low as 25 $\mu g/ m^3$; and on alternative approaches for selecting the level of the standard.

- EPA is proposing to *retain the annual PM2.5 standard* at 15$\mu g/ m^3$, but is also seeking comments on lower levels.

A complete description of the proposed revisions to the PM standards and timelines that depict how the new standards would *postpone* the existing attainment and state implementation plan submittal dates are attached.

U.S. EPA's PROPOSED REVISIONS TO PM STANDARDS

Coarse Particles

- EPA's current standards for coarse particles (PM10) were set in 1987. These standards – a 24-hour standard of 150 μg/ m^3, and an annual standard of 50 μg/ m^3 -- apply to particles 10 micrometers in diameter and smaller.
- The proposed revisions would change the definition of the standard so that it covers only particles between 10 and 2.5 micrometers in diameter (PM10-2.5), also known as "inhalable coarse particles" in response to a 1999 U.S. Court of Appeals for the D.C. Circuit decision directing EPA to ensure that regulations for coarse particles did not duplicate regulation of fine particles.
- The proposed new PM10-2.5 standard would be a 24-hour standard set at 70 μg/ m^3. EPA is not proposing an annual standard for PM10-2.5.
    - EPA would further define PM10-2.5 to include only those coarse particles that come from sources such as high-density traffic on paved roads, industrial sources and construction activities – the kinds of coarse particles typically found in urban areas. Scientific studies indicate that PM10-2.5 health effects are associated with these kinds of coarse particles found in urban areas.
    - The proposed standard would not cover situations where the coarse particles in the air come from sources such as windblown dust and soils, agricultural sources and mining sources.
- Under the proposal, the secondary 24-hour standard for PM10-2.5 would be identical to the primary standard.

Status of Current PM-10 Standards

- EPA is proposing to revoke the current 24-hour PM10 standards, except in areas that have 1) violating monitors; and 2) a population of 100,000 or more. These standards would remain in place in these areas until the Agency has completed attainment and nonattainment designations for PM 10-2.5.
    - EPA is taking comment on whether the 24-hour PM10 standards should be retained in smaller areas (population less than 100,000) that are dominated by one or more large industrial sources.
- The Agency is proposing to immediately revoke the current annual PM10 standards in all areas.
- EPA is also taking comment on whether it should: 1) retain the current PM10 standard in place of the proposed PM10-2.5 standard or 2) not establish a coarse fraction PM standard at this time pending the development of a coarse fraction monitoring network and further research on the health effects of coarse particles.

Fine particles

- EPA currently has two primary standards for fine particles: an annual standard, designed to protect against effects caused by short-term exposure (days or weeks) and longer-term exposure (seasons to years); and a 24-hour standard, designed to provide additional protection on days with high peak PM2.5 concentrations.

PM2.5 Primary (Health-Related) 24-hour standard

- EPA is proposing to strengthen the 24-hour fine particle standard from the current level of 65 micrograms per cubic meter ($\mu g/m^3$) to 35 $\mu g/m^3$.
- EPA is soliciting public comment on alternative levels for the 24-hour standard, between the range of 35 and 30 $\mu g/ m^3$. In addition, the Agency will take comment on: retaining the current level of the standard (of 65 $\mu g/ m^3$), on levels as high as 65 $\mu g/ m^3$ and as low as 25 $\mu g/ m^3$; and on alternative approaches for selecting the level of the standard.

PM2.5 Primary (Health-Related) Annual Standard

- EPA is proposing to retain this standard at 15$\mu g/ m^3$.
- EPA is considering and is seeking comment on the range of 15$\mu g/ m^3$ down to 13 $\mu g/ m^3$. EPA also is soliciting public comment on an alternative level for the annual standard of 12 $\mu g/ m^3$.

PM2.5 Secondary Standards

- The proposal would set the secondary standards for both the annual and 24-hour standards at levels identical to the primary standards.
- EPA also is taking comment on whether to set a separate PM2.5 standard, designed to address visibility (principally in urban areas), on potential levels for that standard within a range of 20 to 30 $\mu g/ m^3$, and on averaging times for the standard within a range of four to eight daylight hours.

Timeline if $PM_{10-2.5}$ Standard is finalized

Milestone	2006 $PM_{10-2.5}$ NAAQS
Effective date of Standard	Nov. 2006
State Recommendations to EPA	July 2012 (based on 2009-2011 monitoring data)
Final Designations	May 2013
Effective Date of Designations	**July 2013**
SIPs Due	**July 2016**
Attainment Date	July 2018 (based on 2015-2017 monitoring data)
Attainment Date with Extension	**Up to July 2023**

Timeline if PM2.5 NAAQS are revised

Milestone	1997 $PM_{2.5}$ Primary NAAQS	2006 $PM_{2.5}$ Primary NAAQS
Promulgation of Standard	July 1997	Nov. 2006
State Recommendations to EPA	Feb. 2004 (based on 2001-2003 monitoring data)	Nov. 2007 (based on 2004-2006 monitoring data)
Final Designations Signature	Dec. 2004	Nov. 2009
Effective Date of Designations	April 2005	April 2010
SIPs Due	April 2008	April 2013
Attainment Date	April 2010 (based on 2007-2009 monitoring data)	April 2015 (based on 2012-2104 monitoring data)
Attainment Date with Extension	Up to April 2015	April 2020